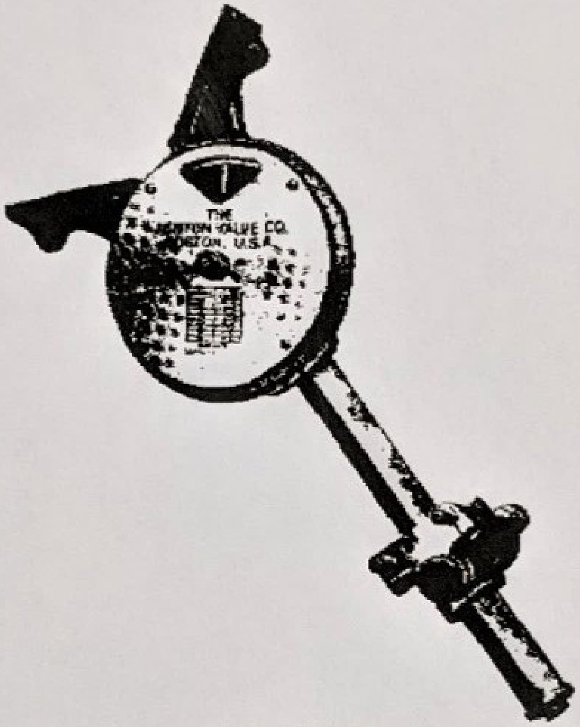
(After 1916)

Circular No. 67-B

The Ashton Locomotive Driving Wheel Quartering Gage

IMPROVED



No. 110-B
(Patented)

THE ASHTON VALVE COMPANY

161-179 First Street, Cambridge
Boston, Mass.

New York, N. Y.   Chicago, Ill.   San Francisco, Cal.

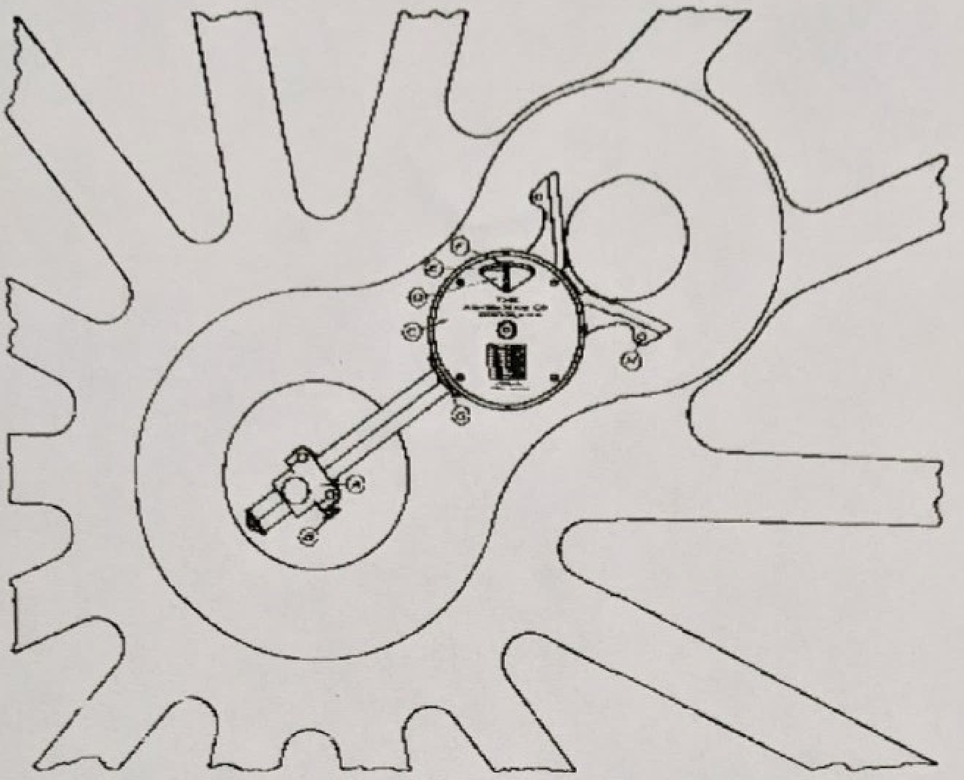


Figure 1

The Ashton Locomotive Driving Wheel Quartering Gage

The Gage illustrated is a time-saving device designed to supply a long recognized requirement in railroad shops and engine houses where a quick and accurate means of testing out crank pin irregularities is desired.

The present old and unreliable method of using plumb lines and straight edges, or removing wheels and transporting them to a quartering machine, wastes valuable time which can be eliminated by using the Ashton Gage. A mechanic can readily test pins for quartering in any position of the drivers without removing them from the frames, requiring but a few minutes per pair of wheels, (Figure 1), whereas the old method takes a mechanic and helper several hours.

This instrument may also be used as a means to check the quartering of the pins before setting the eccentric or crank arms of the valve motion. See Figure 2.

It is likewise of great advantage when applying new axles to old wheel centers. By pressing one wheel on its axle and then starting the opposite wheel, a gage reading can be taken which will accurately indicate whether the wheel is in proper position, and if not, the necessary amount that it should be moved before it is fully pressed on. The quickness with which this operation

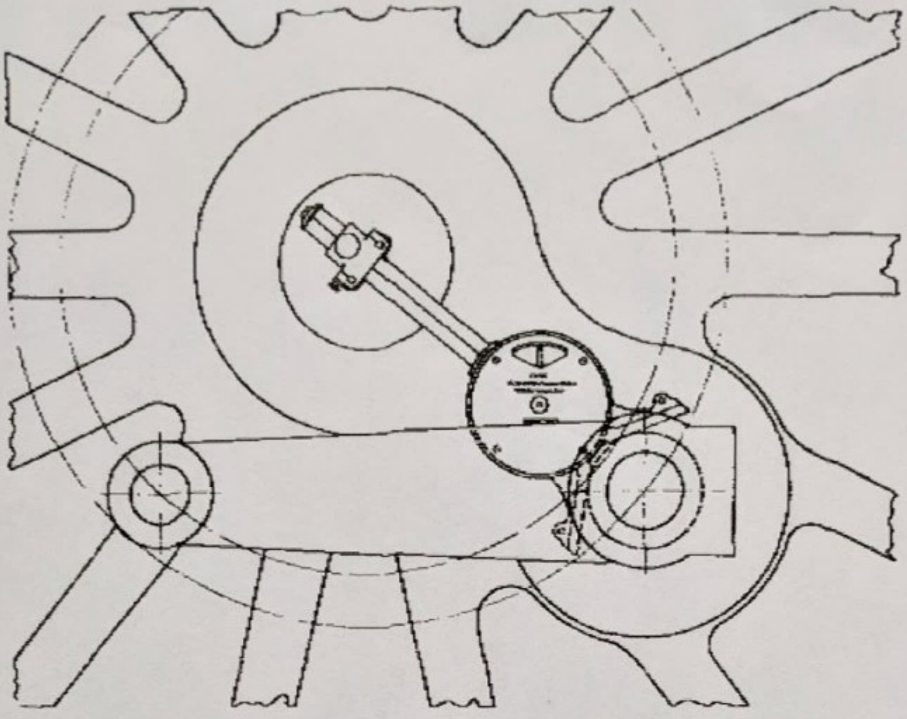
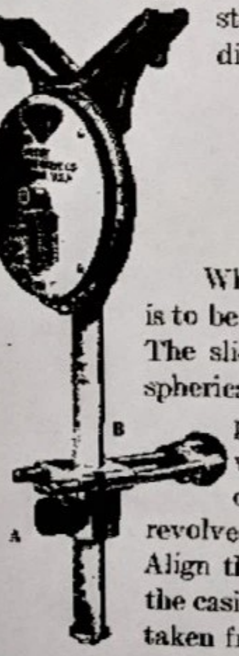


Figure 2

can be performed will, in a very short time, save the initial cost of the Gage.

The present Gage is an improvement over the previous model, the design allowing for a more rugged construction, and by the use of vernier a greater accuracy in the reading of the dial scale.



The Gage is adjustable, and will take care of a variation in stroke of 18 to 32 inches, within the following pin dimensions.

18-inch stroke.

Minimum diameter pin, $2\frac{1}{2}$ inches.

Maximum diameter pin, $4\frac{5}{16}$ inches.

32-inch stroke.

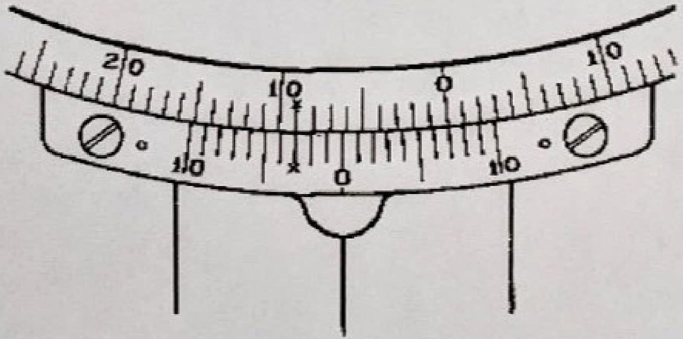
Minimum diameter pin, 4 inches.

When used for quartering driving wheels, the Gage is to be operated in the following manner, (see Figure 1). The slide (A) is first adjusted to the stroke, the hemispherical center fitting the axle center hole with the yoke pressed out against the crank pin as shown. Any variation in the depth of axle center is taken care of by adjustment at (B). The casing (C) is then revolved until the hand appears in the opening at (D). Align the hairline (E) on the hand with hairline (F) on the casing. The Gage may then be removed and a reading taken from the scale and vernier at (G). This operation is repeated on the other side, and if the sum of the two readings is more or less than 90 degrees the pins are out of quarter. The deviation from the standard of 90 degrees is the error.

A table on the casing of each Gage gives the linear variation corresponding to 1 degree of angular variation for the different strokes 18 to 32 inches.

The vernier is graduated to every 6 minutes or $\frac{1}{10}$ of one degree. Each space upon the dial indicates one degree. Each space upon the vernier scale is 6 minutes shorter than one space on the dial scale.

When the zero line marked 0 on the vernier scale coincides with the zero line marked 0 on the dial scale, the instrument is standing horizontally. When the dial is moved so that the graduation or line on the vernier scale next to the zero line coincides with the graduation next to the zero graduation on the dial scale, the included angle of the center line of instrument and the horizontal center line has changed $\frac{1}{10}$ of one degree or 6 minutes. To read the setting of the instrument, read directly from the dial scale, the number of whole degrees between the zero line, and the zero line of the vernier scale. Then count in the same direction, the number of graduations from the zero of the vernier scale to a graduation that coincides with a graduation on the dial scale; multiplying this number by 6 gives the number of minutes to be added to the number of whole degrees.



For example: Reading to the left as shown in the cut, the dial has moved 6 whole degrees from the zero on the vernier scale, and reading in the same direction the third graduation on the vernier scale coincides with a graduation on the dial scale as shown at X, indicating a total angle of $6\frac{3}{10}$ degrees or 6 degrees and 18 minutes.

As shown in Figure 1 the Gage is drilled at (H) providing a means of suspending the Gage from the pin by the use of a coil spring or strap.

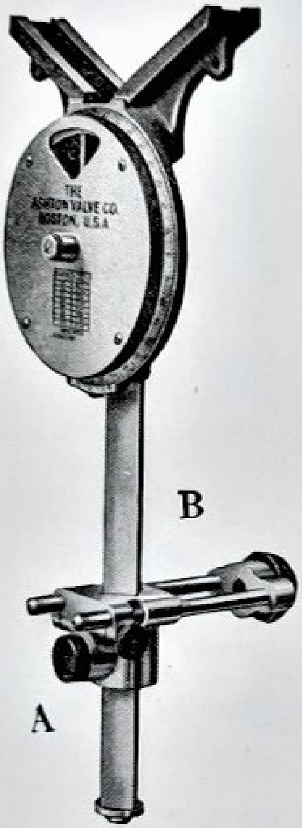
Each Gage is made of duralumin and bronze neatly and accurately finished and provided with a substantial box to protect it from injury.

Weight of instrument, $7\frac{5}{8}$ pounds. Total weight, $12\frac{1}{2}$ pounds.

PRICE ON APPLICATION

Ashton Locomotive Driving Wheel Quartering Gage

Improved


THE ASHTON VALVE CO. BOSTON, U.S.A.
B
A

No. 110-B

Patented

The gage illustrated is a time-saving device designed to supply a long recognized requirement in railroad shops and engine houses where a quick and accurate means of testing out crank pin irregularities is desired.

The present old and unreliable method of using plumb lines and straight edges, or removing wheels and transporting them to a quartering machine, wastes valuable time which can be saved by using the Ashton Gage. A mechanic can readily test pins for quartering in any position of the drivers without removing them from the frames, requiring but a few minutes per pair of wheels (Figure 1), whereas the old method takes a mechanic and helper several hours.

This instrument may also be used as a means to check the quartering of the pins before setting the eccentric or crank arms of the valve motion. (See Figure 2.)

It is likewise of great advantage when applying new axles to old wheel centers. By pressing one wheel on its axle and then starting the opposite wheel, a gage reading can be taken which will accurately indicate whether the wheel is in proper position, and if not, the necessary amount that it should be moved before it is fully pressed on. The quickness with which this operation can be performed will, in a very short time, save the initial cost of the gage.

The present gage is an improvement over the previous model, the design allowing for a more rugged construction, and by the use of vernier, a greater accuracy in the reading of the dial scale.

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18-inch stroke.

Minimum diameter pin, 2½ inches.
Maximum diameter pin, 4 5/16 inches.

32-inch stroke.

Minimum diameter pin, 4 inches.

The gage is operated in the following manner (see Figure 1). The slide (A) is first adjusted to the stroke, the hemispherical center fitting the axle center hole with the yoke pressed out against the crank pin as shown. Any variation in the depth of axle center is taken care of by adjustment at (B). The casing (C) is then revolved until the hand appears in the opening at (D). Align the hairline (E) on the hand with hairline (F) on the casing. The gage may then be removed and a reading taken from the scale and vernier at (G). This operation is repeated on the other side, and if the sum of the two readings is more or less than 90 degrees the pins are out of quarter. The deviation from the standard of 90 degrees is the error.

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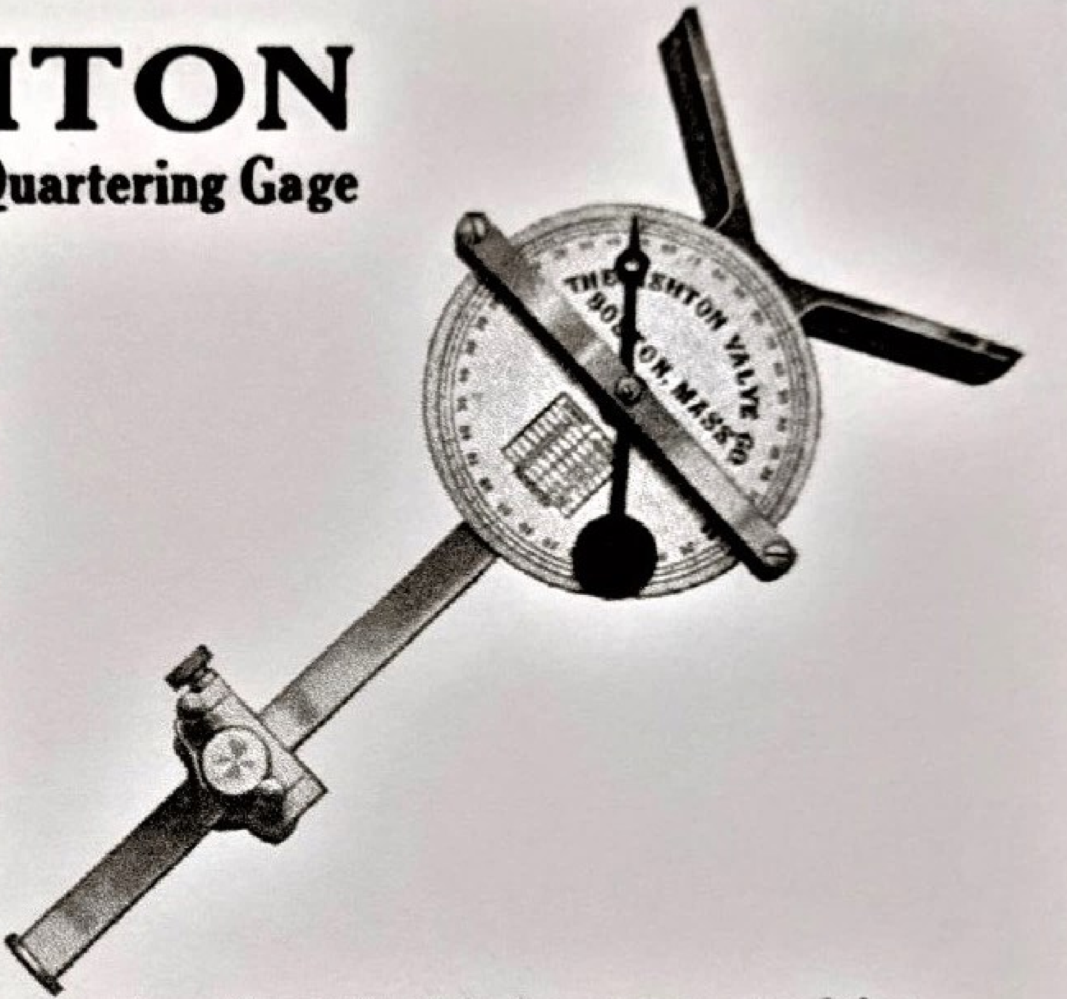
THE ASHTON

Locomotive Driving Wheel Quartering Gage



This gage is a dependable time-saving device for a quick and accurate means of testing out reported crank pin irregularities. A mechanic can readily test pins for quartering in any position of the driver.

This gage is of great advantage when applying new axles to old or new wheel centers. By pressing one wheel on the axle and then starting the opposite wheel, a gage reading can be taken which will accurately indicate whether the wheel is in proper position.

This gage will accommodate 18″ to 32″ stroke engines. An adjustment arm on one end of which is a spherical shaped centering guide to be inserted in the axle center hole, permits this range.

Gage weight 4½ pounds, box 4½, total 9 lbs.

THE ASHTON VALVE COMPANY

Boston New York Chicago San Francisco

THE ASHTON

IMPROVED

Locomotive Driving Wheel Quartering Gage

with Vernier Scale

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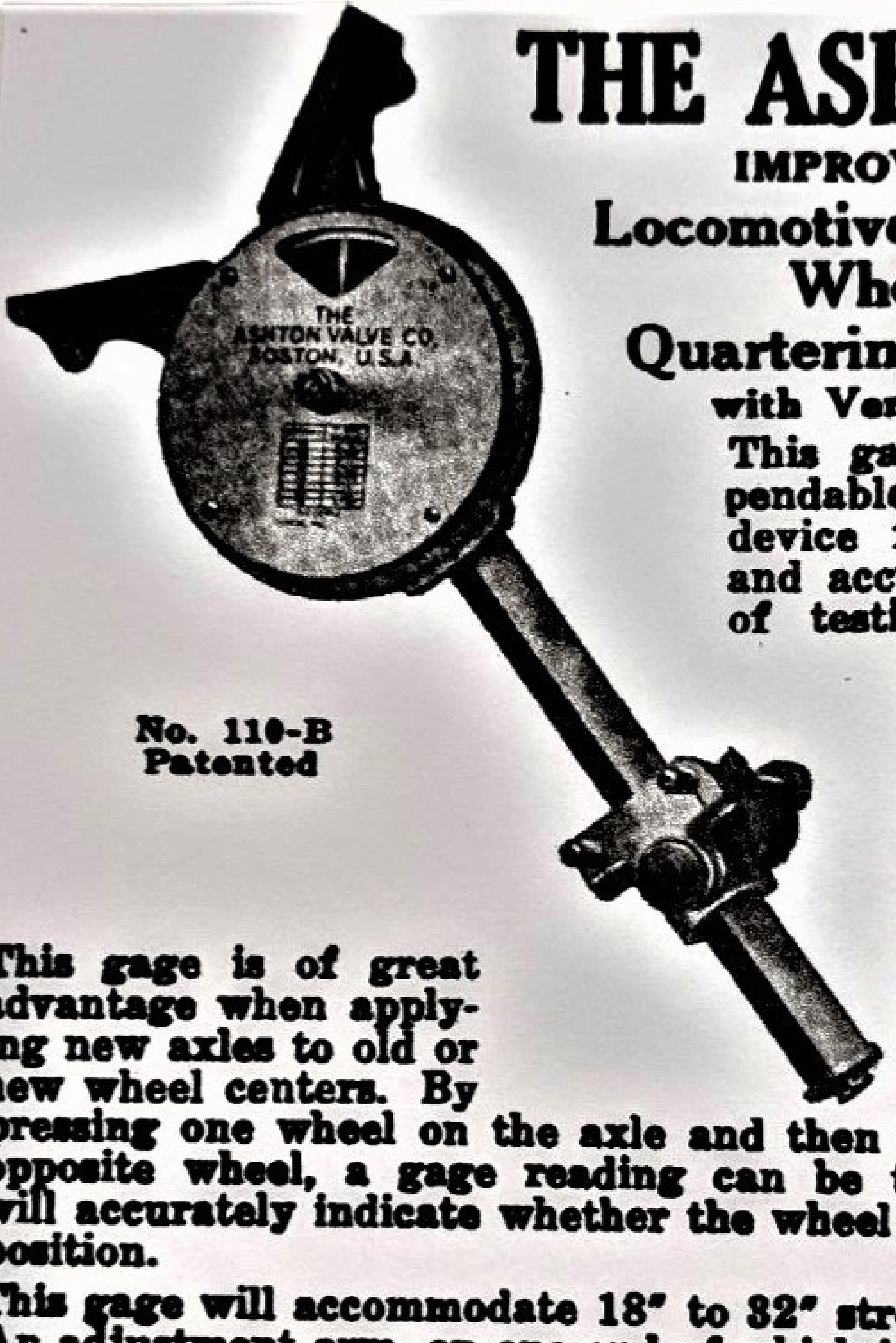

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This gage will accommodate 18" to 32" stroke engines. An adjustment arm, on one end of which is a spherical shaped centering guide to be inserted in the axle center hole, permits this range.

Gage weight 7⅝ lbs., box 4⅜, total 12 lbs.

Send for Circular No. 67-B

THE ASHTON VALVE CO.

BOSTON, MASS.,
161-179 1st St., Cambridge

NEW YORK
126 Liberty St.

CHICAGO, ILL.
565 Washington Blvd